

Kafka Introduction

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Ajay S

ajay.s@accolitedigital.com

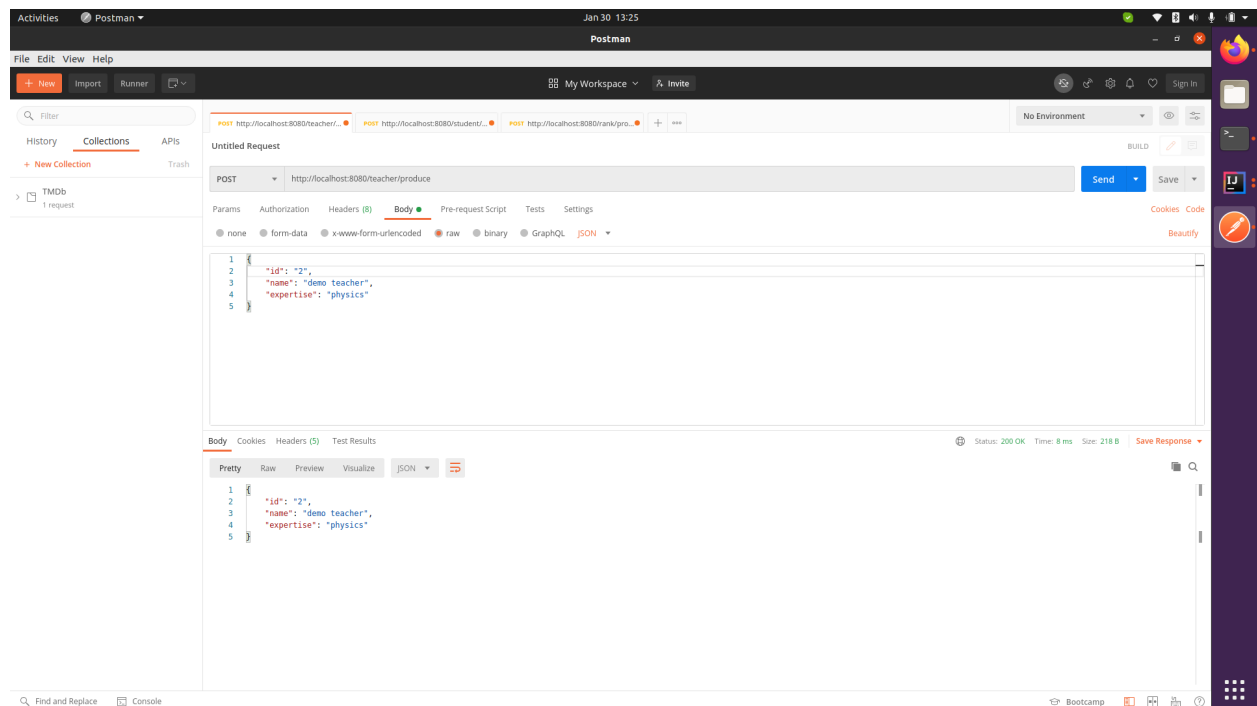
The producer and consumer applications are added as separate folder.

Topic creation:

```
ajay@ajay-Predator-PH315-51:/usr/local/kafka-server/bin$ ./kafka-topics.sh --zookeeper 127.0.0.1:2181 --topic teacher --create --partitions 3 --replication-factor 1
Created topic teacher.
ajay@ajay-Predator-PH315-51:/usr/local/kafka-server/bin$ ./kafka-topics.sh --zookeeper 127.0.0.1:2181 --topic student --create --partitions 3 --replication-factor 1
Created topic student.
ajay@ajay-Predator-PH315-51:/usr/local/kafka-server/bin$ ./kafka-topics.sh --zookeeper 127.0.0.1:2181 --topic rank --create --partitions 3 --replication-factor 1
Created topic rank.
ajay@ajay-Predator-PH315-51:/usr/local/kafka-server/bin$
```

Data production from PostMan:

1. Teacher



2. Student

The screenshot shows the Postman application interface. The top bar indicates the date and time as Jan 30 13:25. The main workspace is titled "Untitled Request" and shows a POST request to the URL `http://localhost:8080/student/produce`. The request body is a JSON object with the following structure:

```
1 {
2   "name": "demo student 2",
3   "id": "2",
4   "standard": "X"
5 }
```

The response status is 200 OK, with a time of 5 ms and a size of 213 B. The response body is displayed in the "Body" tab, showing the same JSON structure as the request body.

3. Rank

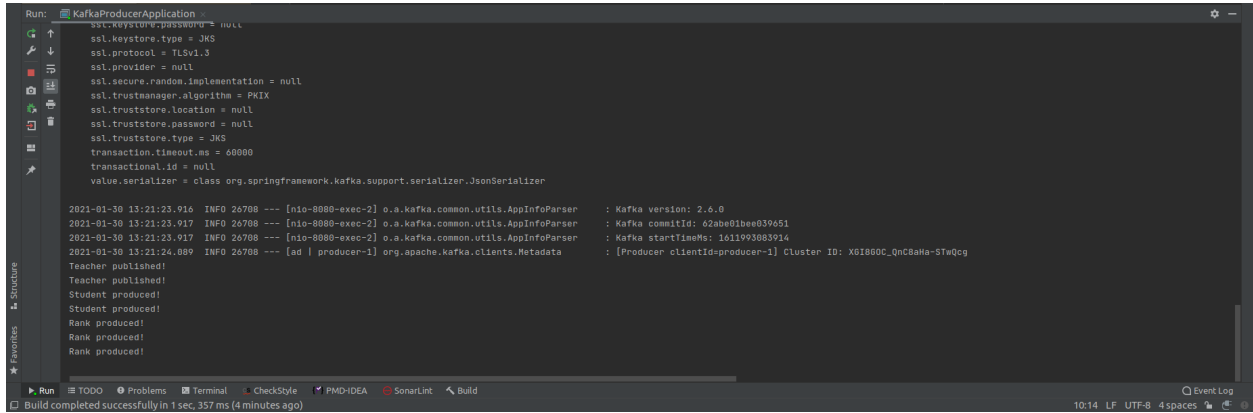
The screenshot shows the Postman application interface. The top bar indicates the date and time as Jan 30 13:25. The main workspace is titled "Untitled Request" and shows a POST request to the URL `http://localhost:8080/rank/produce`. The request body is a JSON object with the following structure:

```
1 {
2   "name": "demo student",
3   "studentId": "3"
4 }
```

The response status is 200 OK, with a time of 8 ms and a size of 242 B. The response body is displayed in the "Body" tab, showing a JSON object with the following structure:

```
1 {
2   "rank": 3,
3   "studentId": "3",
4   "name": "demo student",
5   "submissionDate": "2021-01-30"
6 }
```

Producer Screenshot:

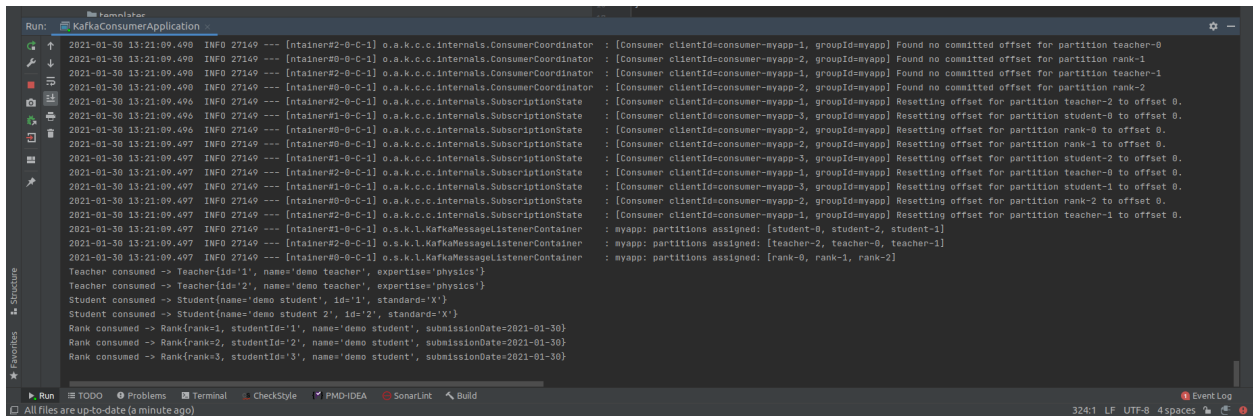


```
Run: KafkaProducerApplication
ssl.keystore.password = null
ssl.keystore.type = JKS
ssl.protocol = TLSv1.3
ssl.provider = null
ssl.secure.random.implementation = null
ssl.trustmanager.algorithm = PKIX
ssl.truststore.location = null
ssl.truststore.password = null
ssl.truststore.type = JKS
transaction.timeout.ms = 60000
transactional.id = null
value.serializer = class org.springframework.kafka.support.serializer.JsonSerializer

2021-01-30 13:21:23.916 INFO 26708 --- [nio-8888-exec-2] o.a.kafka.common.utils.AppInfoParser : Kafka version: 2.6.0
2021-01-30 13:21:23.917 INFO 26708 --- [nio-8888-exec-2] o.a.kafka.common.utils.AppInfoParser : Kafka commitId: 42abe01bee639e51
2021-01-30 13:21:23.917 INFO 26708 --- [nio-8888-exec-2] o.a.kafka.common.utils.AppInfoParser : Kafka startTimeMs: 1611993083914
2021-01-30 13:21:24.089 INFO 26708 --- [ad | producer-1] org.apache.kafka.clients.Metadata : [Producer clientId=producer-1] Cluster ID: XG1860C_QnC8aMa-STWQcg

Teacher published!
Teacher published!
Student produced!
Student produced!
Rank produced!
Rank produced!
Rank produced!
```

Consumer Screenshot:



```
Run: KafkaConsumerApplication
2021-01-30 13:21:09.490 INFO 27149 --- [ntainer#2-0-C-1] o.a.k.c.c.internals.ConsumerCoordinator : [Consumer clientId=consumer-myapp-1, groupId=myapp] Found no committed offset for partition teacher-0
2021-01-30 13:21:09.490 INFO 27149 --- [ntainer#0-0-C-1] o.a.k.c.c.internals.ConsumerCoordinator : [Consumer clientId=consumer-myapp-2, groupId=myapp] Found no committed offset for partition rank-1
2021-01-30 13:21:09.490 INFO 27149 --- [ntainer#2-0-C-1] o.a.k.c.c.internals.ConsumerCoordinator : [Consumer clientId=consumer-myapp-1, groupId=myapp] Found no committed offset for partition teacher-1
2021-01-30 13:21:09.490 INFO 27149 --- [ntainer#0-0-C-1] o.a.k.c.c.internals.ConsumerCoordinator : [Consumer clientId=consumer-myapp-2, groupId=myapp] Found no committed offset for partition rank-2
2021-01-30 13:21:09.496 INFO 27149 --- [ntainer#2-0-C-1] o.a.k.c.c.internals.SubscriptionState : [Consumer clientId=consumer-myapp-1, groupId=myapp] Resetting offset for partition teacher-0 to offset 0.
2021-01-30 13:21:09.496 INFO 27149 --- [ntainer#1-0-C-1] o.a.k.c.c.internals.SubscriptionState : [Consumer clientId=consumer-myapp-3, groupId=myapp] Resetting offset for partition student-0 to offset 0.
2021-01-30 13:21:09.496 INFO 27149 --- [ntainer#0-0-C-1] o.a.k.c.c.internals.SubscriptionState : [Consumer clientId=consumer-myapp-2, groupId=myapp] Resetting offset for partition rank-0 to offset 0.
2021-01-30 13:21:09.497 INFO 27149 --- [ntainer#0-0-C-1] o.a.k.c.c.internals.SubscriptionState : [Consumer clientId=consumer-myapp-2, groupId=myapp] Resetting offset for partition student-1 to offset 0.
2021-01-30 13:21:09.497 INFO 27149 --- [ntainer#1-0-C-1] o.a.k.c.c.internals.SubscriptionState : [Consumer clientId=consumer-myapp-3, groupId=myapp] Resetting offset for partition student-2 to offset 0.
2021-01-30 13:21:09.497 INFO 27149 --- [ntainer#2-0-C-1] o.a.k.c.c.internals.SubscriptionState : [Consumer clientId=consumer-myapp-1, groupId=myapp] Resetting offset for partition teacher-0 to offset 0.
2021-01-30 13:21:09.497 INFO 27149 --- [ntainer#1-0-C-1] o.a.k.c.c.internals.SubscriptionState : [Consumer clientId=consumer-myapp-3, groupId=myapp] Resetting offset for partition student-1 to offset 0.
2021-01-30 13:21:09.497 INFO 27149 --- [ntainer#0-0-C-1] o.a.k.c.c.internals.SubscriptionState : [Consumer clientId=consumer-myapp-2, groupId=myapp] Resetting offset for partition student-2 to offset 0.
2021-01-30 13:21:09.497 INFO 27149 --- [ntainer#2-0-C-1] o.a.k.c.c.internals.SubscriptionState : [Consumer clientId=consumer-myapp-1, groupId=myapp] Resetting offset for partition teacher-1 to offset 0.
2021-01-30 13:21:09.497 INFO 27149 --- [ntainer#1-0-C-1] o.s.k.l.KafkaMessageListenerContainer : myapp: partitions assigned: [student-0, student-2, student-1]
2021-01-30 13:21:09.497 INFO 27149 --- [ntainer#2-0-C-1] o.s.k.l.KafkaMessageListenerContainer : myapp: partitions assigned: [teacher-0, teacher-0, teacher-1]
Teacher consumed -> Teacher{id='1', name='demo teacher', expertise='physics'}
Teacher consumed -> Teacher{id='2', name='demo teacher', expertise='physics'}
Student consumed -> Student{name='demo student', id='1', standard='X'}
Student consumed -> Student{name='demo student 2', id='2', standard='X'}
Rank consumed -> Rank{rank=1, studentId='1', name='demo student', submissionDate=2021-01-30}
Rank consumed -> Rank{rank=2, studentId='2', name='demo student', submissionDate=2021-01-30}
Rank consumed -> Rank{rank=3, studentId='3', name='demo student', submissionDate=2021-01-30}
```